Curriculum Vitae for Sally Dawson

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Education

Ph. D in Physics from Harvard University, 1981

Thesis: Radiative Corrections to $\sin^2 \theta_W$; Supervisor: H.M. Georgi

A. M. in Physics from Harvard University, 1978

B.S. in Physics and Mathematics from Duke University,

Summa Cum Laude, 1977

Professional Experience

2009-present, Senior Scientist, Brookhaven National Laboratory

2007-2008, Sabbatical leave at SLAC

2005-2007, Chair, Physics Department, Brookhaven National Laboratory

2001-present, Adjunct Professor, C. N. Yang

Institute for Theoretical Physics, SUNY, Stony Brook

1998-2004, Group leader, high energy theory, Brookhaven National Laboratory

1994-2005, Senior Scientist, Brookhaven National Laboratory

1990-1994, Physicist, Brookhaven National Laboratory

1988-1990, Associate Physicist, Brookhaven National Laboratory

1986-1988, Assistant Physicist, Brookhaven National Laboratory

1983-1986, Research Associate, Lawrence Berkeley Laboratory

1981-1983, Research Associate, Fermilab

Committee Membership, Other Professional Activities

2017, Chair, Committee of Visitors for DOE HEP Office

2001-2016, Loopfest Conference Organizer

2016-2019, Member, AAAS Section B Nominating Committee

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2014-present, Convenor, HH Working Group, LHC Higgs Cross Section
Working Group
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2013-2019, Member, Max Planck Advisory Board

2014, Member, NSF Committee of Visitors

2013, Convenor, Higgs Working Group, Snowmass Summer Study

2013, Convenor, Theory Working Group, Snowmass Summer Study

2012-2018, Chair, TASI Scientific Advisory Board

2011-2016, Member, New York Academy of Sciences, Blavatnik Prize Committee

2008-2010, Member, Sakurai Prize Committee

2006-2010, Member, AAAS Physics B Executive Committee

2010, Chair, Fermilab Program Advisory Board

2006-2010, Member, Fermilab Program Advisory Board

2006-2010, Member, Santa Barbara KITP Advisory Board

2006, Chair, LBNL Physics Division Program Review

2005, Past Chair, Division of Particles and Fields, APS.

2004-2006, Vice Chair, Elementary Particle Physics EPP2010 Committee of the National Research Council

2004-2006, Member, International Committee for Future Accelerators (ICFA)

2004, Chair, Division of Particles and Fields, APS

2003, Chair-elect, Division of Particles and Fields, APS

2002-present, Member, U.S. Linear Collider Steering Committee

2002-2004 Member, HEPAP subcommittee on Outreach

2002-2004, Member, URA Visiting Committee, Fermilab

2002, Vice-Chair, Division of Particles and Fields, APS

1999-2002, Member, High Energy Physics Advisory Panel of the Department of Energy

1999-2002, APS Divisional Councilor for the Division of Particles and Fields

2001-2002, Member, Nominating Committee, Division of Particles of Beams, APS

2000-2001, Member, LBNL Physics Division Program Review

1999, Member, ANL Physics Division Program Review

1997, Member, HEPAP subpanel on The Future of High Energy Physics

1997-2000, Member, APS Committee on the Status of Women in Physics

1995-2004, Associate Editor, Physical Review D

1994-1996, Member, Executive Committee of the Division of Particle and Fields of the American Physical Society

1991-1993, Member, SSC Program Advisory Committee

Honors and Awards

- 2017, Sakurai Prize of the APS
- 2015, Humboldt Fellowship
- 2014, Ben Lee Fellow, Fermilab
- 2006, Fellow of the American Association for the Advancement of Science
- 1998, APS Centennial Speaker
- 1995, Fellow of the American Physical Society
- 1995, Town of Brookhaven, Woman of the Year in Science

Teaching

- New Physics on Trial at LHC Run II Summer School, 4 lectures on Higgs physics, University of Mainz, Germany, July 24- Aug. 5, 2016.
- Theoretical Advanced Study Institute, 4 lectures on Higgs physics, University of Colorado, June 6-10, 2016.
- CTEQ Summer School, 2 lectures on Higgs physics, University of Pittsburgh, June 6-10, 2016.
- Hadron Collider Summer School, 4 Lectures on Higgs physics, Fermilab, Aug. 7-12, 2012.
- SUSY Summer School, 2 lectures on Higgs physics, University of Chicago, Aug., 2011.
- Trieste Summer School, 4 lectures on Higgs physics, Trieste, Italy, June 8-11, 2011.
- SLAC Summer School, 2 lectures on Higgs physics, SLAC, Aug. 3-4, 2009.
- XIII Mexican School of Particles and Fields, 3 lectures on the Standard Model, Sonora, Mexico, Oct 3-5, 2008.

- Freshman Seminar, The Quantum Universe, University of Stony Brook, Spring Semester, 2007.
- CTEQ Summer School, 3 lectures on QCD Loop calculations, Wisconsin, June, 2007.
- Hadron Collider Physics Summer School, 4 lectures on the Standard Model, Fermilab, Aug. 2006.
- Triumf Summer Institute, 4 lectures on the Standard Model, Vancoever, British Columbia, July, 2006.
- Theoretical Advanced Study Institute, 4 lectures on the Standard Model, University of Colorado, June, 2006.
- Graduate course on Advanced Theoretical Particle Physics, University of Stony Brook, Fall Semester, 2003.
- Graduate course on Electroweak Symmetry Breaking, University of Stony Brook, Fall Semester, 2001.
- Simons Summer Workshop, 2 lectures on collider physics for string theorists, University of Stony Brook, July, 2007.
- Maria Laach School, 4 lectures on electroweak symmetry breaking, Maria Laach, Germany, June, 2002.
- Theoretical Advanced Study Institute, 4 lectures on the top quark, University of Colorado, June, 2002.
- CTEQ Summer School, 2 lectures on QCD and new physics, Lake Geneva, Wisconsin, June, 2000.
- Summer School on High Energy Physics and Cosmology, 4 lectures on the Standard Model, Trieste, Italy, June 29-July 17, 1998.
- Theoretical Advanced Study Institute, 4 lectures on supersymmetry, University of Colorado, June 2-6, 1997.
- ASI Summer School, 4 lectures on supersymmetry, St. Croix, Virgin Islands, July 11-22, 1996.

Publication list at: http://quark.phy.bnl.gov/dawson

Seminars, Colloquium, and Conference Talks (after 1995)

- Update on double Higgs Production, ATLAS physics workshop, BNL, May 19, 2016.
- Is there Physics after the Higgs?, Colloquium, University of Kansas, May 2, 2016.
- Update on Double Higgs Production, Theory Seminar, Michigan State University, April 12, 2016.
- Report on HH Production from the LHCHXS Working group, CMS HH Subgroup Meeting, Lyon, France, Jan 18, 2016.
- Is there Physics after the Higgs?, Colloquium, University of Tuebingen, Germany, Jan 13, 2016.
- Is there Physics after the Higgs?, Colloquium, Rutgers University, Dec. 9, 2015.
- DI-Higgs Theory, Invited Plenary Talk, Higgs and Beyond Workshop, University of Pittsburgh, Dec 3, 2015.
- BSM Physics From Run-II at the LHC, Invited Plenary Talk, AT-LAS Physics Week, Aix Les Bains, France, Nov 19, 2015.
- Effective Field Theories for Higgs plus Jet Production, Invited Plenary Talk, Compositeness Workshop, Fermilab, Nov. 3, 2015.
- Progress in Electroweak Symmetry Breaking, Invited Plenary Talk, Lepton-Photon Conference, Slovenia, Aug, 17, 2015.
- Progress in 2-Higgs Production in the SM and BSM Models, Invited Plenary Talk, Higgs Cross Section Working Group Meeting, CERN, July 18, 2015.
- Is the Higgs Boson the Origin of Mass?, Invited Plenary Talk, Origins of Mass Conference, University of Southern Denmark, May 18, 2015.

- The Usefulness of Effective Field Theory for Boosted Higgs Production, Theory Seminar, SLAC, May 8, 2015.
- Discussion on Double Higgs Production, Invited Plenary Talk, Mainz Workshop on HH Production, April 29, 2015.
- The Higgs Going Forward, Invited Plenary Talk, Aspen Winter Conference, Aspen, CO, Jan. 29, 2015.
- Standard Model Predictions for HH Production, Invited Plenary Talk, Higgs Cross Section Working Group, CERN, Jan. 22, 2015.
- Effective Field Theory for Higgs Physics, Invited Plenary Talk, QCD and Beyond Workshop, University of Pittsburgh, Nov. 13, 2014.
- Grand Vision, Opening talk, BSM Workshop, FNAL LPC, Nov. 3, 2014.
- Concluding Vision, Invited Plenary Talk, Multi Boson Interactions Workshop, BNL, Oct. 30, 2014.
- Effective Field Theory for Higgs Plus Jet Production, Invited Plenary Talk, Higgs Effective Field Theory Workshop, Madrid, Spain, October 1, 2014.
- Progress in Higgs Physics., Invited Plenary Talk, Rencontres de Blois Workshop, Blois, France, May 20, 2014.
- Higgs Physics at 1 TeV, Invited Plenary Talk, 100 TeV Workshop, SLAC, April 22, 2014.
- After the Higgs Discovery: What Next?, Invited Plenary Talk, April APS Meeting, Savannah, Georgia, April 8, 2014.
- Precision Higgs Measurements, Invited Plenary Talk, Lattice Meets Experiment Workshop, Fermilab, March 7, 2014.
- Exploring Double Higgs Production at the LHC, LPC talk, Fermilab, March 4, 2014.

- The Case for a New Scale of Physics, Colloquium, Northwestern University, February 21, 2014.
- Precision Higgs Physics and the Search for a New Scale of Physics, Division seminar, Argonne National Laboratory, Feb 5, 2014.
- The Long Search for the Higgs, Invited Plenary Talk, APS Women in Science Workshop, BNL, Jan.17, 2014.
- The Case for High Energy Colliders, Invited Plenary Talk, P5 Meeting, BNL, Dec 16, 2013.
- The Case for a New Scale of Physics, Invited Plenary Talk, University of Pittsburgh Workshop, Pittsburgh, PA, Nov. 18, 2013.
- Top Partners and Higgs Physics, Theory seminar, SLAC, Sept 20,2013.
- The Future of US Particle Theory: Report of the DPF Theory Panel, HEPAP, Washington, DC, Sept 7, 2013.
- The Case for Precision Higgs Physics, Snowmass Summer Study, Minneapolis, MN., July 30, 2013.
- Top Partners and Higgs Physics, LHC-The First Part of the Journey, KITP, Santa Barbara, CA, July 10, 2013.
- The Way Forward, Higgs workshop, Princeton, April 26, 2013.
- Precision Measurements for Higgs Physics, Snowmass Energy Frontier Meeting, BNL, April 4, 2013.
- Benchmarks for Higgs Physics, Snowmass Energy Frontier Meeting, BNL, April 3, 2013.
- Discussion: After Discovery, What Next?, The First Three Years of the LHC Workshop, Mainz, Germany, March 2013.
- Report from the Energy Frontier Facilities Subpanel, HEPAP, Washington, DC, March 11, 2013.

- What does it all mean? The Long Search for the Higgs Boson, Colloquium, Yale University Feb 28, 2013.
- The Long Search for the Higgs Boson, Simons Foundation retreat, Caneel Bay, Virgin Islands, Jan 20, 2013.
- Uncertainties on Higgs Cross Sections, Workshop on the LHC, Triumf, Dec. 15, 2012.
- Exploring the Higgs Sector, Joint theory/experimental seminar, Berkeley, Oct 11, 2012.
- Higgs Couplings, Seminar, Perimeter Institute, Aug. 2, 2012.
- Higgs Discovery, Brookhaven Scientists Association distinguished lecture, July 25, 2012.
- Summary talk, Next Stretch of the Higgs Magnificent Mile Workshop, Chicago, May 16, 2012.
- Fermion Masses and Higgs Production, Theory Seminar, SLAC, Feb 10, 2012.
- After Discovery: Exploring Higgs Properties, Invited Plenary Talk, ETH Workshop: Higgs Search Confronts Experiment, Jan. 11, 2012.
- Fermion Masses and Higgs Production, Theory Seminar, University of Pittsburgh, Nov. 3, 2011.
- Remembering Uli, Baur Memorial Symposium, University of Buffalo, Sept 24, 2011.
- Precision Measurements for Higgs Physics, ATLAS Higgs Jamboree, LBNL, Oct 26, 2011.
- The Tevatron Legacy, Invited Plenary Talk, SUSY11 Conference, Aug. 2011.
- Uncertainties on Higgs Cross Sections, Higgs Cross Section Workshop, University of Washington, April 26, 2011.

- SQCD corrections, Parallel Session Talk, ALCPG Workshop, March 22, 2011.
- The Physics Case for 1 TeV, Plenary Talk, ALCPG Workshop, March 21, 2011.
- Summary Talk, Workshop on Heavy Particles, ETH, Zurich, Jan 5, 2011.
- A New Era for Particle Physics, Colloquium, University of Connecticut, Nov. 12, 2010.
- Electroweak Symmetry Breaking and the LHC, LHC Theory Initiative Workshop, BNL, Oct 7, 2010.
- The LHC is Here, Colloquium, University of Notre Dame, Sept 29, 2010.
- Finding the Higgs Boson of the MSSM, Theory Seminar, University of Notre Dame, Sept 28, 2010.
- Summary Talk, Higgs workshop, Orsay, France, July 29, 2010.
- b quarks and EW Symmetry Breaking, ICHEP, Paris, France, July 22, 2010.
- Frontiers in Particle Physics, AGS User's Meeting, BNL, June 9, 2010.
- b Quarks and Higgs Physics, Higgs Workshop, University of Michigan, May 12, 2010.
- LHC and Beyond, Summary talk, Pheno Conference, University of Pittsburgh, May 9, 2010.
- Searching for Electroweak Symmetry Breaking, Guralknik fest, Brown University, May 5, 2010.
- Higgs Bosons and b quarks, Theory seminar, University of Oklahoma, April 20, 2010.

- The Case for Electroweak Symmetry Breaking, Colloquium, University of Oklahoma, April 20, 2010.
- The Case for Electroweak Symmetry Breaking, Theory Workshop, City College, April 9, 2010.
- Exploring Electroweak Symmetry Breaking, Invited Plenary Talk, Quigg festival, Fermilab, Dec. 14,2009.
- Waiting for the LHC: Exploring the Quantum Universe, Colloquium, Emory University, Sept 18, 2009.
- Waiting for the LHC: Exploring the Quantum Universe, Colloquium, Washington University, Sept 2, 2009.
- Electroweak Measurements and the 3 and 4-Site Models, CERN Workshop talk, Feb. 12, 2009.
- Implications of observation of a heavy Higgs, CERN Seminar, Feb, 2009.
- How Well do we know Higgs Properties?, Workshop on Measuring Higgs Couplings, INT, University of Washington, Jan 2009.
- Renormalization and BSM Physics: A Cautionary Tale, Workshop on Beyond the SM: From the Tevatron to the LHC, Fermilab, Sept 17, 2008.
- Electroweak Symmetry Breaking at the Terascale, Invited Plenary Talk, Grannis Symposium, Stony Brook, June 13, 2008.
- Physics for Higgs Discovery, Theory Seminar, April 10, 2008, University of Minnesota.
- Finding the Higgs with b Quarks, Theory Seminar, LBL, March 3, 2008.
- Review of Higgs Physics, XIII Mexican School of Particles and Fields, Sonora, Mexico, Oct. 11, 2008.

- Challenges for Higgs Physics, Helmholtz Kickoff Workshop, DESY, Germany, December 3, 2007.
- b's and Higgs Physics, Theory Seminar, University of CA, Irvine, Nov. 28, 2007.
- b's and Higgs physics, ATLAS forum, SLAC, Oct. 10, 2007.
- Waiting for the LHC, Colloquium, University of Calgary, Sept 28, 2007.
- Searching for New Physics at the LHC and ILC, Workshop on B-L, LBL, Sept 22, 2007.
- SLAC, b Quarks and Higgs Physics, Theory Seminar, SLAC, Sept 14, 2007.
- Higgs Working Group Summary, Workshop on Collider physics at the LHC, Les Houches, France, June 29, 2007.
- Waiting for the LHC, Colloquium, Iowa State University, April 2, 2007.
- Higgs Bosons at the Tevatron and LHC: The Big Picture Aspen winter meeting, January 7-11, 2007.
- Physics at the Terascale: Opportunities and Challenges, Colloquium, University of Texas, Austin, Dec 4, 2006.
- Opportunities at the Terascale, Colloquium, University of Wisconsin, Oct. 24, 2006.
- Opportunities at the Terascale, Colloquium, Indiana University, Oct 4,2006.
- Higgs bosons and b quarks, Theory Seminar, Indiana University, Oct 3, 2006.
- Physics at the Terascale: Report from EPP2010, Report to ICFA, Aug. 30, 2006.

- Physics at the Terascale, Colloquium, BNL, June, 2006.
- Physics at the Terascale, Colloquium, Fermilab, May 12, 2006.
- Adventures at the Terascale, Colloquium, University of Virginia, March 24, 2006.
- The Future of Particle Physics, Aspen Winter Conference, February 14, 2006.
- Precision Measurements and Top Quark Physics, Theory Seminar, Carnegie Mellon University, January 11, 2006.
- Revolutions in Particle Physics, Colloquium, State University of New York at Buffalo, October 27, 2005.
- The Top Quark and Precision Measurements, Theory Seminar, University of Michigan, October 8, 2005.
- Revolutions in Particle Physics, Colloquium, Michigan State University, October 7, 2005.
- Revolutions in Particle Physics, Colloquium, Duke University, September 27, 2005.
- Precision Measurements in Theories with $\rho \neq 1$, Bardeen Fest, Fermilab, September 23, 2005.
- New Directions in Electroweak Symmetry Breaking, Lepton-Photon Conference 2005, Lund, Sweden, June, 2005.
- Future Directions for Particle Physics, Symposium, April APS Meeting, Tampa, Fl., April 17, 2005.
- The Top Quark and Precision Measurements, Top Quark Symposium, University of Michigan, April 7, 2005.
- Revolutions in Particle Physics, Colloquium, University of Rochester, March 16, 2005.
- The Top Quark and Precision Measurements, Theory Seminar, University of Rochester, March 16, 2005.

- LHC/LC Complementarity, Victoria Linear Collider Meeting, Victoria, Canada July 28, 2004.
- Associated Higgs-Heavy Quark Production, Victoria Linear Collider Meeting, Victoria, Canada July 28, 2004.
- The Status of the Standard Model, Hadron Collider Physics 2004, Michigan State University, June 14, 2004.
- The Case for a Linear Collider, Colloquium, Brookhaven National Laboratory, April 6, 2004.
- The Case for a Linear Collider, Colloquium, University of Wisconsin, March 22, 2004.
- Associated Higgs Boson Production, Seminar, New York University, March 10, 2004.
- The Case for a Linear Collider, Colloquium, Boston University, February 10, 2004.
- The Higgs Boson: A Theoretical Perspective, Winter Conference, Aspen, CO., February 2, 2004.
- A Roadmap For Colliders, Colloquium, Purdue University, November 6, 2003.
- A Roadmap For Colliders, Wine and Cheese talk, Fermilab, October 17, 2003.
- Progress in Electroweak Symmetry Breaking, Weak Interactions and Neutrinos Conference, October 6, 2003.
- Probing the Higgs Yukawa Couplings at the LHC, University of British Columbia, July 15, 2003.
- Workshop Summary, Workshop on TeV Scale Physics, Les Houches, France June 6, 2003.
- Physics at a Linear Collider, Colloquium, University of Oklahoma, March 6, 2003.

- NLC QCD Corrections to tth Production, University of Oklahoma, March 6, 2003.
- Why We Need Both the LHC and a Linear Collider, Particle Physics Seminar, BNL, Jan. 16, 2003.
- $t\bar{t}h$ Production: an Update, Workshop on Linear Collider Physics, University of Texas at Arlington, Jan. 12, 2003.
- The LC/LHC Synergy, Workshop on LHC/LC Complementarity, Fermilab, Dec. 13, 2002.
- The Physics Case for a Linear Collider, Colloquium, Princeton University, October 17, 2002.
- The LHC/LC Complementarity, 14th Topical Conference on Hadron Collider Physics, Karlsruhe, Germany, October 3, 2002.
- The Physics Case for a Linear Collider, Colloquium, Michigan State University, September 26, 2002.
- The Physics Case for a Linear Collider, APS Meeting, Albuquerque, N.M., April 20, 2002.
- The Physics Case for a Linear Collider, Colloquium, Stony Brook, April 16, 2002.
- Linear Colliders: The Challenge Ahead, Linear Collider Workshop, Chicago, Illinois, January 7-9, 2002.
- Hadroproduction of Higgs Bosons, Snowmass, Colorado, July 5, 2001.
- Conference Summary, PHENO01, Madison, Wisconsin, May 9, 2001.
- Supersymmetry at the Tevatron, EDM Workshop, BNL, May 14, 2001.
- $t\bar{t}h$ Production at a $\gamma\gamma$ Collider, International Conference on $\gamma\gamma$ collisions, Fermilab, March 15, 2001.

- Top Quark Yukawa Couplings and New Physics, 5th International Linear Collider Workshop, Fermilab, October 24-28, 2000.
- $t\bar{t}h$ Production at the LHC, Working group meeting on top quark physics at a Linear Collider, Fermilab, June 22, 2000.
- The Search for the Higgs Boson, Colloquium, Florida State University, March 2, 2000.
- Physics in 2006, Workshop on Studies on Colliders and Collider Physics at the Highest Energies, Montauk, N.Y., September 27- October 1, 1999.
- Prospects for Finding Supersymmetry, Seminar at Stony Brook, Oct. 27, 1998.
- Low Energy Constraints on New Physics: A Status Report, Theory Seminar, Stony Brook University, Sept 28, 1998.
- Higgs Boson Pair Production, Workshop on Physics at the Tevatron, Fermilab, May 14, 1998.
- Low Energy Theorems and Higgs Physics, Seminar, Yale University, May 11, 1998.
- The Search for Electroweak Symmetry Breaking, Colloquium, University of Oregon, Feb. 26, 1998.
- Discovering the Higgs Boson, Invited Plenary Talk, Winter Conference, Aspen, CO., Jan. 27, 1998.
- Low Energy Theorems and Higgs Physics, Theory Seminar, University of Massachusetts, Amherst, Oct. 3, 1997.
- Higgs Physics Beyond the Minimal Model, Theory Seminar, Argonne National Laboratory, Jan. 15, 1997.
- Probing Non-Standard Model Three Gauge Boson Couplings, Theory Seminar, Stony Brook University, Nov. 18, 1996.

- Who Needs SUSY?, Colloquium, Syracuse University, Oct. 24, 1996.
- The Origin of Particle Masses in the Standard Model, Invited talk, Seventh Annual Northeast Regional Physics Conference, BNL, Oct. 26, 1996.
- Conference Summary, Divisional Meeting of the Division of Particles and Fields, Minneapolis, MN, Aug. 10-15, 1996.
- Limits on Anomalous Couplings From LEP Data, Workshop on New Directions for High Energy Physics, Snowmass, CO., June 24-July 12, 1996.
- The Status of QCD, Workshop on New Directions for High Energy Physics, Snowmass, CO., June 24-July 12, 1996.
- New Physics From Anomalous Gauge Boson Interactions, Workshop on Physics with High Energy e^+e^- Colliders, BNL, May 6-8, 1996.
- QCD Corrections to Higgs Production: The Role of Squark Loops, BNL, May 24, 1996.
- Precision Measurement of the W Mass at a Muon Collider, 9th ICFA Workshop on Advanced Beam Dynamics, Montauk, N.Y., Oct. 16, 1995.
- Heavy Higgs Bosons: A Status Report, International Symposium on Particle Theory and Phenomenology, Ames, Iowa, May 24, 1995